

Application No. 09/764,729
Response to Office Action June 24, 2005
Docket: 9300-1

Amendments to Claims:

This listing of claims will replace all prior versions and listings of claims in the instant application:

Listing of Claims:

Claims 1-40. (Canceled)

41. (Previously Presented) A biometric key in the form of a mechanical key having a key body incorporating a biometric sensor for transmission of a signal represented by a biocode of data generated by the biometric sensor, said key body engageable with a mechanical lock body and having one or more electrical contacts for engaging mating electrical contact(s) of the mechanical lock body whereby in use said signal is forwarded to processing means interfaced with or electrically connected to the mechanical lock body for granting access to an authorized user to a facility accessible by the biometric key upon engagement of the key body with the mechanical lock body characterized in that the sensor is surrounded by an insulator in the key body and the sensor is electrically connected to a circuit board associated with the insulator which circuit board is electrically connected to said one or more contacts, wherein the insulator is insertable into a slot of the key body and attached thereto.

42. (Previously Presented) A biometric key in the form of a mechanical key having a key body incorporating a biometric sensor for transmission of a signal represented by a biocode of data generated by the biometric sensor, said key body engageable with a mechanical lock body and having one or more electrical contacts for engaging mating electrical contact(s) of the mechanical lock body whereby in use said signal is forwarded to processing means interfaced with or electrically connected to the mechanical lock body for granting access to an authorized user to a facility accessible by the biometric key upon engagement of the key body with the mechanical lock body characterized in that the sensor is surrounded by an insulator in the key body and the sensor is electrically connected to a circuit board associated with the insulator which circuit board is electrically connected to said one or more contacts, wherein the insulator is slidably attached to the key body and bonded thereto.

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43. (Currently Amended) A biometric key as claimed in claim ~~[[40]]~~ 41, wherein the biometric sensor is accommodated within a mating recess in the insulator.

44. (Currently Amended) A biometric key as claimed in claim ~~[[40]]~~ 41, wherein the circuit board is accommodated within a cavity of the insulator.

45. (Currently Amended) A biometric key as claimed in claim ~~[[40]]~~ 41, wherein the circuit board at one end has contact traces or wire leads which engage with corresponding contact traces of an adjacent end of the biometric sensor.

46. (Previously Presented) A biometric key in the form of a mechanical key having a key body incorporating a biometric sensor for transmission of a signal represented by a biocode of data generated by the biometric sensor, said key body engageable with a mechanical lock body and having one or more electrical contacts for engaging mating electrical contact(s) of the mechanical lock body whereby in use said signal is forwarded to processing means interfaced with or electrically connected to the mechanical lock body for granting access to an authorized user to a facility accessible by the biometric key upon engagement of the key body with the mechanical lock body characterized in that the sensor is surrounded by an insulator in the key body and the sensor is electrically connected to a circuit board associated with the insulator which circuit board is electrically connected to said one or more contacts, wherein the insulator incorporates a plurality of contact portals in contact with corresponding contacts or wire leads of the circuit board.

47. (Currently Amended) A biometric key as claimed in claim ~~[[40]]~~ 41, wherein each contact is at least partly surrounded by an insulator sleeve.

48. (Previously Presented) A biometric key as claimed in claim 47, wherein the insulator sleeve is aligned normally to a longitudinal axis of the key body.

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49. (Currently Amended) A biometric key as claimed in claim ~~[[40]]~~ 41, wherein the key body has a handle or gripping part incorporating the biometric sensor and a blade portion.

50. (Previously Presented) A biometric key as claimed in claim 49, wherein the blade portion has a plurality of wards.

51. (Previously Presented) A biometric key as claimed in claim 49, wherein the blade portion has a shape of a plate and does not incorporate wards.

52. (Currently Amended) A biometric key as claimed in claim ~~[[40]]~~ 41, wherein each contact comprises a pair of contact pins located in accommodating insulator sleeves.

53. (Currently Amended) A biometric key as claimed in claim ~~[[40]]~~ 41, wherein the key body incorporates a smart chip.

54. (Previously Presented) A mechanical lock body engageable with a biometric key which incorporates a biometric sensor for transmission of a signal representing a biocode of data generated by the biometric sensor, said mechanical lock body having:

(i) a movable component or cylinder having one or more contact portals for engagement with corresponding contact(s) of the biometric key when said key is engaged with the movable component or cylinder; and

(ii) a barrel for retention of said movable component having contact(s) for engagement with the contact portal(s) of the movable component or cylinder whereby in use the signal is forwarded to processing means interfaced or electrically connected with the barrel upon engagement of the biometric key with said movable component for automatic generation of the signal for granting access to an authorized user of a facility accessible by the biometric key.

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55. (Previously Presented) A mechanical lock body as claimed in claim 54, wherein the barrel has a plurality of tumblers for engagement with a plurality of wards of said biometric key.

56. (Previously Presented) A mechanical lock body as claimed in claim 54, which incorporates an internal processing unit in said barrel, which corresponds to said processing means.

57. (Previously Presented) A mechanical lock body as claimed in claim 56, wherein the internal processing unit has an interface with an external processor or computer for enrolment of biometric data.

58. (Previously Presented) A mechanical lock body as claimed in claim 54, wherein after analysis of the signal by the processing means, access to the facility is provided by activation of a linear motor or solenoid located within the lock body, which is in electrical connection with the processing means, wherein said linear motor or solenoid is actuated to facilitate rotation of the movable component or cylinder relative to the barrel to cause unlocking of the lock body.

59. (Previously Presented) A mechanical lock body as claimed in claim 58, wherein the rotation of the movable component or cylinder is caused by corresponding rotation of a locking pin within the lock body which is due to actuation of the linear motor or solenoid.

60. (Previously Presented) A mechanical lock body as claimed in claim 54, wherein each of the contacts contained in the movable component or cylinder are spring biased to a position in abutment with a corresponding contact of the biometric key.

61. (Previously Presented) A mechanical lock body as claimed in claim 60, wherein each of the contacts are normal to a longitudinal axis of the biometric key in use.

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62. (Previously Presented) A mechanical lock body as claimed in claim 60, wherein each of the contacts are accommodated within an insulator.

63. (Previously Presented) A mechanical lock body as claimed in claim 60, wherein within each insulator there are provided an inner contact for touching corresponding contacts of the biometric key in use and an outer contact separated from an adjacent inner contact by a spring.

64. (Previously Presented) A mechanical lock body as claimed in claim 54, wherein there is incorporated in said body an indicator means indicating validation or rejection of biometric data generated by the sensor.

65. (Previously Presented) A mechanical lock body as claimed in claim 64, wherein the indicator means is a light emitting diode.

66-68. (Cancelled)

69. (Previously Presented) A process for providing access to a facility which includes the steps of:

(i) engaging a mechanical key which incorporates a biometric sensor and one or more contacts located on an external surface of the key and which are electrically connected to the biometric sensor with the mechanical lock body wherein said one or more contacts of the key touch mating contact(s) of the mechanical lock body to provide power to process means electrically connected or interfaced with the mechanical lock body whereby a signal representing a biocode of data generated by the biometric sensor is automatically generated upon engagement with the mechanical key and the mechanical lock body and forwarded to the processing means;

(ii) matching the biocode with a database associated with the processing means to permit validation of the biocode; and

(iii) providing access to the facility, which incorporates the mechanical lock body to an authorized user when said validation takes place.

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70. (Previously Presented) A process for providing access to a facility which incorporates a movable part which includes the steps of:

(i) engaging a biometric key having a biometric sensor for transmission of a signal represented by a biocode of data generated by the biometric sensor, said key having one or more contacts with a receptor body operatively associated with or attached to said movable part whereby said contact(s) of the biometric key engage corresponding contacts of the receptor body whereby electrical power is provided to processing means interfaced with or electrically connected to the receptor body whereby the signal is automatically generated by engagement of the biometric key with the receptor body and forwarded to the processing means;

(ii) matching the biocode with a database associated with the processing means to permit validation of the biocode; and

(iii) providing access to the facility of an authorized user by causing movement of said movable part to an unlocked position.

71. (Previously Presented) A process as claimed in claim 70 wherein the movable part of the facility is a door or drawer of the facility.

72. (Previously Presented) A process for providing access to a facility which includes the steps of:

(i) engaging a biometric key having a biometric sensor for transmission of a signal represented by a biocode of data generated by the biometric sensor, said key having one or more contacts with a receptor body whereby said contact(s) of the biometric key engage corresponding contacts of the receptor body whereby electrical power is provided to processing means interfaced with or electrically connected to the receptor body whereby the signal is automatically generated by engagement of the biometric key with the receptor body and forwarded to the processing means;

(ii) matching the biocode with a database associated with the processing means to permit validation of the biocode; and

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(iii) providing access to the facility to an authorized user by causing movement of a latch member associated with the receptor body to an unlocked position.

73. (Previously Presented) A facility incorporating a security system to prevent unauthorized access to the facility, said security system including:

- (a) a biometric key having a key body incorporating a biometric sensor for transmission of a signal representing a biocode of data generated by the biometric sensor; and
- (b) a receptor body operatively associated with or attached to a movable part of the facility which receptor body is engageable with the biometric key, wherein the receptor body has one or more contacts for engagement with mating contact(s) of the key body whereby said receptor body is interfaced with or electrically connected to processing means whereby in use upon engagement of the biometric key with the receptor body the signal is forwarded to said processing means which grants access to the facility to an authorized user by unlocking said movable part, wherein the receptor body includes (i) a movable component or lock cylinder having said contact(s) and (ii) a barrel for retention of said movable component wherein said barrel has contact(s) for engagement with said contacts of the movable component or lock cylinder for transmission of the signal.

74. (Cancelled)

75. (Previously Presented) A process for providing access to a facility which incorporates a movable part which includes the steps of:

- (i) engaging a biometric key having a biometric sensor for transmission of a signal represented by a biocode of data generated by the biometric sensor, said key having one or more contacts with a receptor body operatively associated with or attached to said movable part whereby said contact(s) of the biometric key engage corresponding contacts of the receptor body whereby electrical power is provided to processing means interfaced with or electrically connected to the receptor body whereby the signal is generated by engagement of the biometric key with the receptor body and forwarded to the processing means;

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(ii) matching the biocode with a database associated with the processing means to permit validation of the biocode; and

(iii) providing access to the facility of an authorized user by causing movement of said movable part to an unlocked position,

wherein in step (i) said contact(s) of the biometric key engage with mating contact(s) of a lock cylinder or movable component of the receptor body which has a barrel for retention of said lock cylinder or movable component wherein said barrel has contact(s) that engage with said mating contact(s) of the lock cylinder or movable component for generation of the signal.

76. (Previously Presented) A process as claimed in claim 75 wherein said access to the facility is granted after rotation of the lock cylinder or movable component relative to the barrel.

77. (Currently Amended) A process for providing access to a facility which incorporates a movable part which includes the steps of:

(i) engaging a biometric key having a biometric sensor for transmission of a signal represented by a biocode of data generated by the biometric sensor, said key having one or more contacts with a receptor body operatively associated with or attached to said movable part whereby said contact(s) of the biometric key engage corresponding contacts of the receptor body whereby electrical power is provided to processing means interfaced with or electrically connected to the receptor body whereby the signal is generated by engagement of the biometric key with the receptor body and forwarded to the processing means which includes a processing unit having a database and said processing unit is interfaced with a host computer having a database;

(ii) matching the biocode with ~~[[a]]~~ the database associated with ~~of~~ the processing ~~unit means~~ to permit validation of the biocode; and

(iii) providing access to the facility of an authorized user by causing movement of said movable part to an unlocked position,

wherein enrolment of an authorized biometric signature takes place by initial engagement of said biometric key with said receptor body and actuation of the biometric sensor for automatic

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generation of a signal representing said biocode of data which represents said authorized biometric signature which is then captured into said database of the processing unit and wherein the host computer requests personal and/or demographic information relative to the authorized biometric signature before said capture of the authorized biometric signature.

78. (Cancelled)

79. (Currently Amended) A process as claimed in claim [[78]] 77 wherein the personal and/or demographic information is stored with biometric signature(s) in the database of the host computer and a search is made of this database for previous enrolments before the authorized biometric signature is enrolled in the host computer database as a new enrolment and subsequently the database of the processing unit and the host computer database is updated to reflect the new enrolment.

80. (Currently Amended) A biometric key as claimed in claim 42, wherein the key body has an inbuilt processor chip or processing unit.

81. (New) A biometric key as claimed in claim 42, wherein the biometric sensor is accommodated within a mating recess in the insulator.

82. (New) A biometric key as claimed in claim 42, wherein the circuit board is accommodated within a cavity of the insulator.

83. (New) A biometric key as claimed in claim 42, wherein the circuit board at one end has contact traces or wire leads which engage with corresponding contact traces of an adjacent end of the biometric sensor.

84. (New) A biometric key as claimed in claim 42, wherein each contact is at least partly surrounded by an insulator sleeve.

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85. (New) A biometric key as claimed in claim 42, wherein the key body has a handle or gripping part incorporating the biometric sensor and a blade portion.

86. (New) A biometric key as claimed in claim 42, wherein each contact comprises a pair of contact pins located in accommodating insulator sleeves.

87. (New) A biometric key as claimed in claim 42, wherein the key body incorporates a smart chip.

88. (New) A biometric key as claimed in claim 42, wherein the key body has an inbuilt processor chip or processing unit.